AFFORESTATION CONFERENCE : 1964

By D. R. Moore

On the 4th May, 1964, some 23 senior officers of the Forests Department met in the C.S.A. Council Room to confer on matters connected with the establishment, tending, genetics and economics of pine plantations.

Following introductory remarks by the Conservator, Mr. Barrett introduced the subject of "Economics of Pine Pruning". By basing the increased returns for clear knot free pine timber on the relative prices charged for standard and clears in Oregon on the local market, it was possible to demonstrate graphically that there should be a substantial financial gain to be obtained by pruning final crop Pinus radiata trees to a height of 30 ft. Mr. Meachem was then able to show by graphs that even after allowing 5% compound interest throughout the rotation and a recurring maintenance charge of £2. per acre per annum in site quality 3, Pinus radiata a return of nearly £1,500 per acre was possible. The value of logs from final crop trees had to be assumed and was based largely on present day values and did not allow for an inflatory trend.

It is of interest to recall that the plantations now nearing the end of their rotation were in most cases established quite cheaply, in some cases for £5. per acre or even less.

Mr Eastman traced the development of present pruning methods and outlined possible developments mainly in connection with high and extra high pruning. Several suggestions aimed at simplifying and reducing costs of the first pruning operation were advanced and discussed.

A new pattern high pruning saw originating in New Zealand was exhibited. This saw had been tried at Collie and proved more efficient than the standard type, while one produced at Gnangara also proved to be better than the standard type. The tree bicycle had been tried, but it was considered too cumbersome for use in pruning, but no doubt would be useful for research workers who only need to climb an occasional tree. A Morris platform and ladder was on order from New Zealand. The former had arrived and looked quite promising, but its full potential could not be assessed without a ladder.

In conjunction with high pruning, it was pointed out by Mr. Moore that by adjustment of the thinning intensity it should be possible to regulate the height of the lowest point of the green crown to avoid the development of dead limbs and consequently loose knots. The presence of loose knots in timber is regarded as a serious flaw and results in considerable degrade. On the other hand,

tight knots can be accepted in all except the highest grades provided they are not too large.

A graph prepared by New Zealand research workers was exhibited to show the relationship between tree density and the height of the lower edge of the green crown.

Reference was also made to results achieved in South Africa where it had been demonstrated that the rate of growth and, with this, the degree of spirality and fibre length of the timber, was affected by and could be largely controlled by the degree of pruning.

The question of establishment of plantations was introduced by Mr. Eastman who outlined the present accepted methods of clearing, land preparation and establishment with suggestions for possible amendments. These alterations aimed at reducing the overall establishment costs and included such items as windrowing with destruction of scrub and suckers by hormone sprays prior to planting.

Ploughing, although essential in the coastal sand plain areas, was considered to doubtful value in the hills plantations. In fact, in catchments it should be avoided, owing to the possibility of soil erosion and consequent silting of dams.

In regard to spacing, it was pointed out that wide spacing such as 9 x 9 ft., although encouraging early vigorous growth and providing for access, allowed development of large limbs and did not provide an adequate number of good trees for the final group. Any increased costs in planting at closer spacing should be offset by some savings in pruning costs due to the limbs being smaller.

The above proceedings occupied the first day.

On the second day, officers gathered at Wanneroo Headquarters where the methods of grafting in pine were demonstrated by Mr. Hopkins and grafted stock in various stages was examined.

The company then gathered in the laboratory for further group discussion, firstly on scrub control in plantations. A review of past methods and costs was presented by Mr. Moore, it being pointed out that in future the answer could lie in pre-planting elimination by means of hormone sprays. However, where the scrub was well established and competing, the most promising method of control appeared to be by means of the 5' Page Rotary Slasher, while the Holt scrub basher was well worth a trial. Further experiments would also be carried out to check the effect of hormone sprays in established plantations.

The Conservator briefly outlined the work that was being done by Senior Forester Perry, who is spending 12 months or so in Portugal collecting scion material from elite Pinus pinaster trees.

Some of this scion material will be sent to England where it will be grafted onto P. sylvestris stock for later despatch to Australia. Other scion material will be forwarded by air direct to Perth where it will be grafted onto Pinus pinaster stock and held in quarantine in a special glasshouse for the statutory period. It was pointed out that the Commonwealth, South Australia, Victoria and New Zealand were all making contributions towards meeting Forester Perry's expenses.

Mr. Hopkins then outlined the work that had been achieved and proposals for the future in connection with tree breeding. Up to date, most of the work had been concentrated on Pinus pinaster, but work on Pinus radiata had commenced and would be extended. Already a start had been made in the establishment of grafted pinaster stock in a seed orchard on the Yanchep road. A site for the Pinus radiata seed orchard had been selected bordering the Canning Dam.

Mr. Van Noort gave details of a disorder thought to be Diplodia that had attacked the leading shoots of a number of Pinus pinaster trees at Wanneroo, causing various malformations. Examples of the complaint were exhibited. It is particularly distressing in that this complaint seems to attack the vigorously growing trees. Samples have been sent to Kew, England, for identification and latest information is to the effect that it is definitely not Diplodia, but a Basidiomycete (Aurio Basidium pillulans).

The party now moved into the field where they inspected the seed orchard and plantation areas affected with the tip complaint, low pruning operations using a new type light axe, high pruning using the newly developed saw blade, and also the extra long (20 ft.) handle saw. Some officers were persuaded to try their hand with this latter equipment, but found the 20 ft. handle somewhat of a handful.

Officers were so engrossed with the tour that few thought to comment on the lateness of the lunch break. However, it was noted that appetites were good when the lunch site near the old mill was finally reached and sandwiches and billy tea were produced.

During lunch, Mr. Lejeune briefly discussed the question of control burning in pine plantations to reduce the fire hazard. It was generally agreed that there was a need to proceed with caution in this matter and that any burning done should be on a purely experimental basis and fully controlled.

The programme concluded with a brief commentary by the Conservator who said he hoped that officers had benefited from the discussions and emphasised that it must not be assumed that departmental policy had been changed and that officers must await confirmation on the various points that had arisen. Officers were generally agreed that the meeting had been instructive and well worthwhile. It had given them an opportunity for open discussion on many contentious matters and was voted a great success.

- - - - - - -